

Council of Canadian Academies Conseil des académies canadiennes

# **Evidence First**

ANNUAL REPORT 2010/11

Science Advice in the Public Interest

#### C O U N C I L O F C A N A D I A N A C A D E M I E S

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### MESSAGE FROM THE CHAIR

Once again, I am delighted to comment on the important work being conducted for Canada by the Council of Canadian Academies. A truly vibrant and dynamic organization, the Council provides significant value through its evidence-based assessments and various aspects of science broadly defined.



In March 2010 I was pleased to receive the results from the Council's first five-year external review. Since that time the Council has focused its attention on assessing and responding to the recommendations put forward by the independent External Evaluation Panel. Overall, the Panel concluded, without hesitation, that the Council is delivering on the objectives set out in its founding documents and providing value by informing public debate and decision-making in Canada. The review noted that, although produced only recently, the Council's assessments have already had a significant impact and will continue to be extremely relevant well into the future.

A key recommendation stemming from the evaluation was the need to develop a strategic plan. I am pleased to report that the Council, at the end of 2010/11, was preparing to launch its first three-year strategic plan, *Insight & Impact*. This document is the result of broad-based consultation activities that included strategic discussions by both the Board of Governors and Scientific Advisory Committee. Additionally, the presidents of the Council's Member Academies offered their ideas regarding future directions for the organization, while Council staff considered organizational values at a day-long retreat. This input was combined with information gleaned from an environmental scan of the Council's strengths, weaknesses and opportunities, as well as an updated risk assessment. The result is a strategic plan that provides the platform and direction for future activities that will help us meet our vision to become *Canada's trusted voice for science in the public interest*.

I particularly congratulate the Council's President, Elizabeth Dowdeswell, for her leadership and vision. Over the past year she and her team have successfully overseen the completion of two assessments; initiated a number of new pilot projects; enhanced our working relationship with the Council's Member Academies; introduced an evaluation framework for assessments; and secured four new assessment topics for study. It has been a busy year for the Council's secretariat and on behalf of the Board of Governors I extend to them our sincere appreciation.

Sincerely,

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**Elizabeth Parr-Johnston, C.M.** *Chair of the Board of Governors* 

### MESSAGE FROM THE PRESIDENT

As I reflect on the past year, I was energized by the opportunities the Council had to make a genuine contribution to Canadian life. With quiet confidence we have brought evidence forward and demonstrated the value of an independent voice in the public policy process.



This year's Annual Report illustrates our progress in achieving an ambitious, aspirational vision — to become *Canada's trusted voice for science in the public interest* — and the values that have guided us in our work. We are a young organization committed to pursuing excellence and constant improvement.

Our successful evolution will require the respectful engagement of volunteers. It has been a privilege to witness the enthusiasm, commitment, and dedication of expert panel members to developing balanced, evidence-based reports. They give generously of their time and experience. The Council's expert panels comprise the brightest minds from across Canada and abroad. With the scientific and intellectual power that we are able to bring to bear, we are indeed contributing to a national commitment to 'evidence first', as the foundation for effective public policy development. I would like to extend my sincere appreciation to all those who have worked with us over the past five years.

I also want to acknowledge the supportive oversight and guidance of our Board of Governors and the active engagement of our Member Academies — the Royal Society of Canada, the Canadian Academy of Health Sciences and the Canadian Academy of Engineering. Additionally, the Council's Scientific Advisory Committee, under the new leadership of Dr. Tom Brzustowski, has been instrumental in stewardship of the assessment process.

Our main business, of course, is assessments. We had many highlights in fiscal year 2010/11, including the completion and public release of two expert panel reports, *Honesty, Accountability and Trust: Fostering Research Integrity in Canada* and *Canadian Taxonomy: Exploring Biodiversity, Creating Opportunity*. Both reports have triggered important dialogues within their stakeholder communities and both are expected to inform future policy directions and decisions. The expert panels on approaches to animal health risk assessment and the integrated testing of pesticides worked diligently throughout 2010, finalizing their reports and completing the report review process. We look forward to their release in the coming months.

This year also saw the development of new directions for the Council. Building on our 2009 expert assessment, *Innovation and Business Strategy: Why Canada Falls Short*, we were able to proactively respond to the federal government's call for consultation on the digital economy strategy. We also partnered with the Canadian Academy of Health Sciences (CAHS) on an assessment of global health. Funded through CAHS, the Council is managing the process for this evidence-based assessment. This initiative is an important pilot project for the Council and has already led to a stronger relationship with CAHS.

Recognition of the importance of our work can be found in the referral of four new questions to the Council for assessment: sustainable management of water in agricultural landscapes; science performance and research funding; women in university research; and the state of science technology in Canada. I am delighted we have been able to attract some outstanding chairs for these panels, including: Howard Wheater, Canada Excellence

Research Chair in Water Security and Professor at the University of Saskatchewan; Rita Colwell, Distinguished University Professor at the University of Maryland and former Director of the National Science Foundation; Lorna Marsden, former President of York University; and Eliot Phillipson, Sir John and Lady Eaton, Professor Emeritus at the University of Toronto and former President of the Canada Foundation for Innovation.

These assessments illustrate the broad range of issues on which evidence is sought, across all disciplines, from narrow and particular to broad in scope. Our experience to date reinforces the value of encouraging scientific literacy, of exploring issues that are at the interface of traditional disciplines and of applying a systemic approach. We will continue to stimulate and nurture the existing pipeline of questions while we diversify our sources of sponsors and approaches to providing evidence based-information.

Finally, I want to thank the Council's staff. They are dedicated professionals, committed to a culture of service in which respect and accountability to those with whom we work are fundamental. They are enthusiastic about seeking and sharing knowledge. They can take pride in what we have accomplished together in 2010/11.

In this complex world of increasing interdependence, fast-paced change, and emerging technologies, the Council is well positioned to collect and synthesize evidence and provide insight to support policy-makers in the development of policies that serve the interest of Canada and all Canadians.

Sincerely,

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**Elizabeth Dowdeswell** *President and CEO* 

A wise man proportions his belief to the evidence.

David Hume

### ABOUT THE COUNCIL

The Council of Canadian Academies is an independent, not-for-profit corporation that supports evidencebased, expert assessments (studies) to inform public policy development in Canada. The Council came into existence in 2005 and was fully operational by 2006, and consists of a Board of Governors, a Scientific Advisory Committee, and a Secretariat. The Council draws upon the intellectual capital that lies within its three Member Academies: the Royal Society of Canada; the Canadian Academy of Engineering; and the Canadian Academy of Health Sciences.

The mandate of the Council is to be a source of independent, authoritative, expert assessments on the science and evidence underlying matters of significant public interest. In carrying out its work, the Council addresses a broad spectrum of knowledge, encompassing the natural, social and health sciences, engineering and the humanities.

The Council, working together with the Member Academies, also provides a focal point for dealing with other academies and related bodies from around the world regarding scientific assessments and associated matters.

The Council defines "science" broadly to encompass the natural, social and health sciences, engineering and the humanities. The Council is registered under the *Canada Corporations Act* and its operations are supported by a \$30-million endowment received from the Government of Canada. This endowment entitles the federal government to refer up to five questions per year to the Council for assessment. The Council may also conduct assessments outside of its agreement with the government. Potential assessment questions can be referred to the Council by foundations, non-governmental organizations, the private sector or any level of government. All

assessment questions, regardless of source, and the resulting reports must be approved by the Council's Board of Governors.

#### MEMBER ACADEMIES

The founding members of the Council of Canadian Academies are:

**The Royal Society of Canada (RSC)** is the senior national body of distinguished Canadian scholars, artists and scientists. The primary objective of the RSC is to promote learning and research in the arts and sciences. The RSC consists of nearly 2,000 Fellows — men and women who are selected by their peers for outstanding contributions to the natural and social sciences, the arts, and the humanities. The RSC exists to recognize academic excellence, advise governments and organizations, and promote Canadian culture.

**The Canadian Academy of Engineering (CAE)** is the national institution through which Canada's most distinguished and experienced engineers provide strategic advice on matters of critical importance to Canada. The academy is an independent, self-governing, and non-profit organization established in 1987. Members of the academy are nominated and elected by their peers to honorary fellowships, in recognition of their distinguished achievements and career-long service to the engineering profession. Fellows of the academy are committed to ensuring that Canada's engineering expertise is applied to the benefit of all Canadians.

The Canadian Academy of Health Sciences (CAHS) recognizes individuals of great accomplishment and achievement in the academic health sciences in Canada. The academy provides timely, informed, and unbiased assessments of urgent issues affecting the health of Canadians. CAHS also represents Canada on the InterAcademy Medical Panel (IAMP), a global consortium of national health science academies whose aim is to alleviate the health burdens of the world's poorest people; build scientific capacity for health; and provide independent scientific advice on promoting health science and health-care policy to national governments and global organizations.

### Vision:

To be Canada's trusted voice for science in the public interest

### **Mission**:

To provide Canadians with:

the best available scientific knowledge with the objective of informing debate and decision-making;

independent, authoritative and evidence-based assessments on the science underlying current and future issues of public interest; and

a science voice nationally and internationally.

### **Value Proposition:**

The Council of Canadian Academies offers insight and evidence to enrich Canadian policy development and decision-making. This is achieved by harnessing the collective wisdom of the finest minds to develop independent, authoritative, and evidence-based expert assessments on the issues that matter most to Canadians.

### A SNAPSHOT OF 2010/11

The Council's success in the past year underscores the importance of the organization's role in providing the evidence needed to develop effective public policy in the interests of Canadians — an "evidence first" approach that has proven its value for government, industry, academia and stakeholders.



### APRIL 2010

Elizabeth Dowdeswell appointed President and Chief Executive Officer (CEO); new Council website launched.

# JULY 2010

Expert report on the digital economy, *Catalyzing Canada's Digital Economy*, submitted in response to the Government of Canada's national consultation; Council



announces the appointment of Marcel

# MAY 2010

The presidents of the Council and the Member Academies hold their annual face-to-face meeting; Council issues its first electronic newsletter.



Côté, Daniel Krewski, and Louis Fortier to its Scientific Advisory Committee.

# AUGUST 2010

Staff retreat with a focus on values to be articulated within the new strategic plan.

# JUNE 2010

Assessment proposal on science performance and research funding received from the Natural Sciences and Engineering Research Council (NSERC); Tom Brzustowski appointed Chair of the Council's Scientific Advisory Committee; Council welcomes Claude Jean and Roderick A. Macdonald to its Board of Governors.



# SEPTEMBER 2010

Assessment proposal on women in university research received from Industry Canada; Canadian Academy of Engineering officially leases office space from the Council.

# OCTOBER 2010

Assessment report on research integrity, *Honesty, Accountability, and* 



*Trust: Fostering Research Integrity in Canada* launched; assessment proposal on water and agriculture received from Agriculture and Agri-Food Canada; Round Nine Call for Proposals launched within federal government.

# NOVEMBER 2010

Assessment report on biodiversity science, *Canadian Taxonomy: Exploring Biodiversity, Creating Opportunity* launched; Council

hosts a workshop on taxonomy in Canada with Dr. Tom Lovejoy; assessment proposal on the state of science and technology received from Industry Canada.



# DECEMBER 2010

First meeting of CAHS Expert Panel on Canada's Strategic Role in Global Health held under the management of the Council; Board of Governors holds its strategic planning meeting and confirms Council direction for the next three years.

# FEBRUARY 2011

Council interns and staff participate in the 2011 AAAS conference; Council President visits the National Academy of Sciences.

# MARCH 2011

Insight & Impact, Council's first three-year strategic plan, approved by Board of Governors.



### ASSESSMENT HIGHLIGHTS 2010/11

# THROUGHOUT ITS ACTIVITIES, THE COUNCIL REMAINED COMMITTED TO ITS OVERARCHING OBJECTIVES FOR 2010/11:

- To respond to the recommendations of the External Evaluation Panel with the objective of positioning the Council and its work to maintain both product excellence and relevance, and to achieve the highest potential impact.
- To continue to advance the mandate of the Council to be a source of independent, expert assessments of the science underlying pressing issues and matters of public interest through the conduct of topical, relevant, and high-impact assessments that serve both the immediate and long-term needs of the Canadian public.
- To strengthen the foundation for a long-term, cooperative partnership with the Council's Member Academies through development and execution of a partnership action plan.
- To elevate the Council's profile and promote the Council's vision, mandate, and priorities through continued development and execution of a multi-year Council communications framework.
- To enable the long-term success of the Council through attraction and retention of high-quality professional staff and through the creation of a fulfilling and sustainable workplace environment.

#### PROVIDING EVIDENCE: COMPLETED ASSESSMENTS

In October 2010, the Council released an assessment report on research integrity, followed a month later by the launch of an assessment report on biodiversity science. Both reports, while still very new, are already having an impact within and beyond government.

#### HONESTY, ACCOUNTABILITY & TRUST: FOSTERING RESEARCH INTEGRITY IN CANADA

The report of the Expert Panel on Research Integrity was released publicly in Montréal on October 21, 2010. Panel Chair, Dr. Paul Davenport, presented its findings to some 500 participants at the Canadian Science Policy Conference.

The report calls on Canada's research community (researchers, funders, and institutions) to work collectively to build a positive culture for research integrity. Key to the creation of a positive culture is a common definition for research integrity, along with values and principles that can be widely adopted. The Panel's report therefore provides a definition for research integrity, five core values, and 11 fundamental principles that could be applicable to all members of the research community.



Dr. Paul Davenport launching the Research Integrity Report, Oct 2010.

The assessment received wide coverage in the national media and was recognized on various websites and in specialized journals such as *Nature*. Dr. Davenport also presented the report to the federal Assistant Deputy Minister (ADM) Committee on Science and Technology. He was also asked to present the report at the annual meeting of senior university administrators held by the Association of Universities and Colleges of Canada (AUCC).

The number of visits to the Council's website on the day of the report release was three-to-four times higher than average. Of note, 67 per cent of visitors were new. The Council also saw an increase in registrations for its electronic newsletter at the time of the launch.

Upon receiving the report, the presidents of Canada's three funding agencies (the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC)) issued a statement congratulating the expert panel and welcoming the report, stating, "The Panel's report will be particularly helpful as we work to update and strengthen, as planned, our Tri-Agency research integrity policy framework."

In mid-December, the Council was pleased to host a meeting of the Canadian Research Integrity Forum (CRIF). During that meeting, CRIF members received a briefing on the report and had an opportunity to discuss next steps. CRIF is composed of approximately 15 to 20 members representing various governmental and non-governmental organizations that share a common interest in strengthening research integrity in Canada.

Overall, the Council distributed approximately 1,500 copies of the report (print and electronic) to key stakeholders across the country and anticipates that requests for the report will continue well into 2011/12. The Council is now considering how to further communicate with Canada's research community about this assessment and to contribute to international discussions on this topic.

#### CANADIAN TAXONOMY: EXPLORING BIODIVERSITY, CREATING OPPORTUNITY

Through the work of the Expert Panel on Biodiversity Science, the Council was pleased to contribute to the United Nations 2010 International Year for Biodiversity while furthering Canada's understanding of biodiversity science and the central role of taxonomy. The Panel's report was publicly released to coincide with the Arctic Biodiversity Symposium, held at the Canadian Museum of Nature on November 18, 2010.

The report examined three key areas: Canada's taxonomic expertise; the state of biodiversity collections; and Canada's strength in data sharing. After examining the evidence in each of these areas. the Panel concluded that Canada is not yet equipped to fully understand the challenges of its biodiversity resources. At the time of the report's release, the Panel's Chair, Dr. Thomas E. Lovejoy, commented, "Taxonomy is foundational for the biodiversity sciences, as advances are built upon the discovery and accurate identification of species." He also noted that "Canada has a proud history of world-class contributions to taxonomic research and although critical gaps do exist within the Canadian system, there is an opportunity for Canada to provide international leadership and move forward with a major initiative in taxonomy."

Prior to the public release of the report, the Council undertook a number of activities to raise awareness about the assessment and to further its eventual dissemination. For example, the Council posted a video on its website designed to inform stakeholders and website visitors about the assessment and its objectives. Council staff also provided support to expert panel members who wanted to speak publicly about the work of the Panel, developed promotional conference material, and promoted the assessment via its electronic newsletter and through media opportunities such as with the *Hill Times*.



#### Biodiversity report makes an impact

Six short months after the release of the Council's report, *Canadian Taxonomy: Exploring Biodiversity, Creating Opportunity*, the Alliance of Natural History Museums of Canada launched its strategy regarding the development of national collections. Its report recommends steps to address issues critical to the future of Canadian natural history collections, some of which were identified in the Council's biodiversity report. Among the steps suggested in the assessment are the need to expand training and expertise and the need to enhance capacity to manage collections and share data that provide information on environmental issues such as invasive or endangered species, or climate change. The November 18 release of the biodiversity report was virtual, with the Panel Chair providing a video briefing on the Council's website and for participants who were at the Canadian Museum of Nature for the Arctic Biodiversity Symposium. The report's release was picked up by the national media, mentioned on various websites (including the International Convention on Biological Diversity website) and reported on by a number of university media outlets.

On the day of the report's release, visits to the Council's website were approximately five-to-six times higher than average. Of those visits, almost 70 per cent were new visitors. Additionally, traffic to the website remained high over the following week, with more than half of the visitors being new.

Shortly after the report's official release, Dr. Lovejoy came to Ottawa to discuss the report and its findings with the taxonomic research and policy communities. On November 29, the Council hosted a morning workshop with approximately 80 participants to discuss the report and its key findings. The workshop was a valuable exercise in generating interest in the Expert Panel's work and starting an important discussion regarding the future of taxonomy in Canada. Dr. Lovejoy also met with members of the Federal Biodiversity Information



Virtual Launch of the Biodiversity Report, Nov 2010.

Partnership (FBIP) to discuss how best to move forward with the report. FBIP is an informal group of federal departments and agencies committed to increasing the value and use of biodiversity data held by the federal government. Combined, these two activities ensured the Expert Panel's work was well understood by relevant stakeholders.

Since the report's release, the Council has distributed more than 1,500 copies (print and electronic) to key stakeholders across the country. The Council will continue to seek strategic opportunities throughout 2011/12 to further disseminate the report. The Council anticipates the information provided within the report will allow for important policy decisions to be taken in the months ahead.

#### ASSESSMENTS IN PROGRESS

Throughout the 2010/11 fiscal year the Council's expert panels on integrated testing of pesticides and approaches to animal health risk assessment worked diligently to complete their respective reports. As of March 31st, 2011, the pesticides assessment was completing the report review stage and the animal health risk assessment had just received report sign-off from the Expert Panel.

#### The Integrated Testing of Pesticides:

**Chair: Leonard Ritter,** Professor, Toxicology, Department of Environmental Biology & Executive Director of the Canadian Network of Toxicology Centres, University of Guelph

The regulatory risk assessment of pesticides uses a battery of animal-based (*in vivo*) tests to produce scientifically defensible risk assessment conclusions and risk management strategies that will protect human health and the environment. New integrated testing methods, using data from diverse fields of study, represent an exciting means to augment toxicity testing and further improve the safety of pesticides and other regulated chemicals. In order to prepare for a changing regulatory paradigm, the Minister of Health (on behalf of the Pest Management and Regulatory Agency) in 2009 requested the Council conduct an assessment of the scientific status of the use of integrated testing strategies in the human and environmental regulatory risk assessment of pesticides.

It is anticipated that this report will be publicly released in late 2011 or early 2012.

#### **Approaches to Animal Health Risk Assessment:**

Chair: Alastair Cribb, FCAHS, Dean & Professor, Faculty of Veterinary Medicine, University of Calgary

Animal health has a direct impact on the health of Canadians, the economy, and the environment. The majority of emerging diseases in humans have their origin in the animal kingdom. Economic losses related to animal health events include reduced trade flows, lost incomes for farm families, and fewer jobs in agricultural industries. Environmental consequences include the disruption of domestic ecological systems.

Animal health is supported by risk assessment that contributes to planning and priority-setting for research, disease surveillance, and emergency management aimed in part at addressing and mitigating risks that may impact human health.

The Minister of Agriculture and Agri-Food (on behalf of the Canadian Food Inspection Agency) in 2009 requested the Council conduct an assessment examining the state and comprehensiveness of risk assessment techniques in animal health science, specifically pertaining to risks that may affect human health. The report, once released, will provide an evidence-based analysis that will help to inform public policy development on risk assessment techniques in animal health science. The report will provided an examination of the national and international context of animal health risk assessment, and cover topics such as best practices in approaches to risk assessment, prioritization of risk assessments, and integration of animal-human health research.



It is anticipated that this report will be released in September 2011.

#### MAINTAINING MOMENTUM: NEW ASSESSMENT QUESTIONS

Appreciation of the value of expert assessments conducted through the Council is growing within the federal government and amongst Canadian decision-makers. In 2011/12, the Council will be engaged in at least four expert panel assessment processes on questions referred to it by the Government of Canada.

#### **Science Performance and Research Funding**

**Chair: Rita Colwell**, Distinguished University Professor at the University of Maryland, College Park; Johns Hopkins University Bloomberg School of Public Health; Senior Advisor and Chairman Emeritus, Canon U.S. Life Sciences, Inc.; and President and CEO, CosmosID, Inc. (College Park, MD)

There is no straightforward approach for measuring outputs of the research generated from the natural sciences and engineering disciplines. Policy-makers and researchers alike are interested in developing a better understanding of the different approaches used to assess science performance, in particular looking beyond basic economic outcomes. Lack of a "one-size-fits-all" solution to monitoring and measuring research performance is driving a growing international need to develop and implement new methods, and to share



best practices and lessons learned.

In June 2010, the Minister of Industry, on behalf of the Natural Sciences and Engineering Research Council (NSERC), asked the Council to examine the international practices and supporting evidence used to assess performance of research in the natural sciences and engineering disciplines.

The Council's assessment will draw from both international and national approaches for evaluating research performance. Overall, the assessment presents an important opportunity to address science performance from a uniquely Canadian perspective.

#### Women in University Research

Chair: Lorna Marsden, President Emeritus and Professor, York University

After the notable absence of female representation in the Canada Excellence Research Chairs (CERC) program, the Minister of Industry, in March 2010, struck an ad-hoc panel to examine the program's selection process. Based on the panel's finding that the lack of female representation was not due to active choices made during the CERC selection process, it was suggested that an assessment of gender equity within the wider university context and talent pool be undertaken by a third party.





#### Sustainable Management of Water in the Agricultural Landscapes of Canada

Chair: Howard Wheater, Canada Excellence Research Chair in Water Security, University of Saskatchewan

The belief that Canada possesses an endless supply of freshwater is quickly being replaced by the reality that limits exist, and in some regions those limits are already being reached. The agriculture sector in many regions of the country finds itself under pressure, either in terms of the availability of water or in the impact that agriculture is having on hydrological systems. Knowledge of the underlying hydrological cycles, the potential impacts of climate change, and the effects of human activities are all fundamental to the development of a policy framework for sustainable water management. Additionally, knowledge of how to best foster adaptation, resiliency, and uptake of sustainable practices in the agricultural sector is needed as Canada considers future public policies.

In October 2010, the Minister of Agriculture and Agri-Food asked the Council to provide a comprehensive evaluation of what additional science is needed to better guide the sustainable management of water to address the needs of Canadian agriculture. The Council has pulled together experts from a variety of disciplines to assess what we know, and more importantly what gaps and uncertainties need to be addressed in order to provide the basis for informed policy development and decision making.

### Innovation report continues to resonate

The Council's 2009 report, Innovation and Business Strategy: Why Canada Falls Short, provided the necessary evidence to spur a national discussion on business innovation in Canada. In 2009, a national roundtable on innovation involving leaders from the private sector and academia used the innovation report as the starting point for discussion. The result of the roundtable was the creation of the Coalition for Action on Innovation in Canada. Additionally, Tom Jenkins, Chair of the 2010 federal Research and Development Review Panel, has commented that his panel's consultation paper draws heavily on the data and findings of the Council's report. As a senior national commentator has written, "We owe a lot of gratitude to the Council of Canadian Academies whose report [on business innovation] should be required reading for anyone who wants Canada to make smart choices and enhance its prosperity."

# The State of Science and Technology in Canada

**Chair: Eliot Phillipson,** Sir John and Lady Eaton Professor of Medicine Emeritus at the University of Toronto and former President and CEO of the Canada Foundation for Innovation

The Council's first assessment, completed in 2006, examined the state of science and technology in Canada. The report became well known for its identification of four areas or "clusters" of Canadian strength — natural resources, information and communications technologies, health and related life sciences and technologies, and environmental technologies. These four areas of strength were adopted by the Government of Canada in 2007 as part of its science and technology strategy, *Mobilizing Science and Technology to Canada's Advantage*.

Now, five years later, the Minister of Industry has asked the Council to once again assess the State of Science and Technology in Canada. In addition to revisiting findings from the 2006 report, this new assessment will extend the study's scope to encompass trends and Canadian strengths in scientific disciplines and technological applications, geographic distribution, and economic potential by discipline.

#### INNOVATING IN THE INTEREST OF EVIDENCE: NEW APPROACHES TO ASSESSMENTS

A key recommendation of the External Evaluation Panel was that the Council develop new approaches to assessments beyond the expert panel approach that has proven so successful, noting that a strong voice in support of evidence-based policy should come in different forms. Accordingly, the Council has adopted, as one of its organizational goals, a commitment to diversifying its sources of topics and assessment mechanisms. In 2010/11, the Council undertook two assessments that reflect this innovative approach: a pro-active submission to a government consultation and a joint project with the Canadian Academy of Health Sciences (CAHS) on global health. These reports, while innovative in process and structure, follow the same guidelines of independent, evidence-based analysis and peer review that the Council's full assessments follow.

These activities have helped to lay the groundwork for a broadening of sponsors and assessment questions. The Council will carefully evaluate these projects to determine what lessons can be learned and if they are suitable services to offer for the future.

#### **Catalyzing Canada's Digital Economy**

In May 2010, the Government of Canada launched a public consultation on the digital economy; the consultation ran until July 9, 2010 and sought input on the following five areas:

- 1. Canada's capacity to innovate using digital technologies
- 2. Building a world-class digital infrastructure
- 3. Growing the information and communications technologies (ICT) industry
- 4. Digital media: creating Canada's digital advantage
- 5. Building digital skills for tomorrow

The Council proactively assembled a small, seven-member expert panel on digital technologies and innovation to provide input into the consultation. The Panel's report, *Catalyzing Canada's Digital Economy*, draws on and extends the analysis of the Council's 2009 report on business innovation, entitled *Innovation and Business Strategy: Why Canada Falls Short*. The Panel explored the economic aspects of a digital strategy, specifically the linkage between digital technologies, innovation, and productivity. The Panel used two examples of policy initiatives to illustrate that a strategy needs to take a systems perspective, whereby efforts to stimulate demand make supply-side policies more effective. These two examples are:



- A digital transformation assistance program which could foster greater uptake of ICT, particularly by small and medium-sized enterprises; and
- The strategic potential of "catalytic" government procurement to provide early-stage stimulus for the development of globally competitive ICT-producing sectors in Canada.



#### Canada's Strategic Role in Global Health

While life expectancy in industrialized countries is about 80 years and rising, in a number of developing countries, it is 40 years and falling. Despite this challenge, and despite Canada's significant investment in international development assistance and health research, our country has not taken a strategic look at its role in global health.

In mid-2010, CAHS and the Council came together to work on an assessment of global health. The assessment is officially headed by CAHS, with the Council managing the assessment process. This pilot project falls outside of the Council's funding agreement with the Government of Canada. The role of the Panel is to examine Canada's current role in global health, to assess its comparative advantages in the context of global health needs, and to provide scenarios that could optimize Canada's strategic role in terms of Canadian investment of human, financial, and other resources relating to global health.

In 2010/11, the Council also provided support to CAHS with the production of its assessment *Transforming Care for Canadians with Chronic Health Conditions*. The Council looks forward to strengthening its ties with CAHS in the years ahead.

#### CONTINUING TO HAVE IMPACT: PAST ASSESSMENTS

Over the course of the past year, the Council has seen clear signs of how its reports are resonating with governments and stakeholders across the country.

For example, references to both the nanotechnology report and the Arctic research report were made at the October 2010 Canadian Science Policy Conference. The Council's assessment on gas hydrates was presented at an expert conference of petroleum engineers where consideration was being given to gas hydrates as an energy source. The media have continued to report periodically on the Council's assessment on influenza transmission and personal protective respiratory equipment.

The Council's report on groundwater has also received significant attention. More specifically, the British Columbia Auditor General recently used the Council's 2009 report, *The Sustainable Management of Groundwater in Canada*, in its audit of B.C.'s groundwater system. The Auditor's office noted that it "derived audit objectives from the Council of Canadian Academies' 2009 report." The same report is also being used as a teaching tool for graduate students at the University of Waterloo. Professor David Rudolph informed the Council that the assessment "has proven to be an invaluable educational tool for our graduate students studying all aspects of groundwater science and management."

The Council sees such references as signs that it is taking on important issues for Canada and Canadians, and that its reports are having a positive impact on policy and public conversations across the country.

Our duty is to believe that for which we have sufficient evidence, and to suspend our judgment when we have not.

Sir John Lubbock

### ADDITIONAL HIGHLIGHTS OF 2010/11

#### THINKING TO THE FUTURE: DEVELOPING A STRATEGIC PLAN

One of the key recommendations of the External Evaluation Panel was the development of a strategic plan to guide the Council as it makes the transition to a mature organization. Developing such a plan was the primary focus of the Council's strategic planning activities during 2010/11. The Board of Governors led the development process, in conjunction with the Scientific Advisory Committee, both of whom held strategic discussions. Other input was sought from the Council's Member Academies and Council staff. The plan was also informed by a wide-ranging environmental scan of the Council's strengths, weaknesses, and opportunities, as well as an updated risk assessment.

The resulting plan, entitled *Insight & Impact*, sets out the values that underpin the Council's work and establishes six key goals to be met over the coming three years:



- 1. **Improve Responsiveness:** *Develop and provide, on a timely basis, a line of services that responds to the needs of sponsors*
- 2. Achieve Potential: Attract questions of the highest importance and relevance to Canadian well-being
- 3. **Maintain Excellence:** *Maintain and enhance standards for scientific excellence and high-quality services*
- 4. **Become Sustainable:** *Establish a long-term, sustainable and dependable funding stream*
- 5. **Foster Collaboration:** *Strengthen collaborative alliances among Member Academies and the Council to achieve its strategic goals*
- 6. **Increase Visibility:** *Increase visibility and awareness of the Council's work to further the organization's impact*

*Insight & Impact* was approved by the Board in March 2011 and publicly launched in April 2011.

#### RELATIONSHIP WITH THE MEMBER ACADEMIES

The External Evaluation Panel recommended combining the assets of the Council and its three Member Academies in a synergistic way to create a shared and collective vision, suggesting that this would result in a powerful voice to encourage enhanced use of science advice in public policy making.

Developing a co-operative partnership and alliance with the Member Academies is a priority for the Council. The Council values each academy and its mandate. The Member Academies are a significant source of intellectual capital from which the Council can draw for conducting expert panel assessments. Over the past year, the presidents of the Member Academies and the Council have met quarterly, in addition to an annual face-to-face meeting to discuss opportunities for future collaboration. The Council has also participated in the annual meetings of each academy to build awareness of the Council and its work among new Fellows. The Member Academies also continue to be well represented on the Council's Board of Governors, through the Scientific Advisory Committee and on various expert panels.

This past year presented positive opportunities for the Council to work with each academy and to learn how the organizations can collaborate on furthering science for policy. The Council looks forward to its continued work with CAHS in support of the global health assessment. With respect to the Royal Society of Canada and the Canadian Academy of Engineering, the Council continues to strengthen its working relationships through the sharing of information and regular communications with staff. In fact, the offices for the Canadian Academy of Engineering are now located within the Council of Canadian Academies' space, allowing for greater communication.

#### FUNDING FOR THE FUTURE

In 2005, the Council entered into a 10-year, \$30-million funding agreement with the Government of Canada. The Council is now at the five-year mark and must consider securing funding for the future. The External Evaluation Panel indicated an urgent need for the Board to develop a long-term strategy for sustainable funding that addresses both renewed federal support and a diversified funding base. In the year ahead, the Council will begin to work on a plan that addresses funding for the future and will explore options for diversified funding sources, products, and business opportunities.

Before moving forward with this objective, the Council's Board of Governors determined that the development of the organization's strategic plan must be the first priority. The strategic plan was approved by the Board in March 2011 and will pave the way for the development of a funding renewal roadmap.

#### STAKEHOLDER ENGAGEMENT, COMMUNICATIONS AND OUTREACH

It has been a busy and productive year as the Council sought to develop more fully its communications function. The External Evaluation Panel noted the Council has established its credibility and track record for producing high-quality assessments and that it should, therefore, undertake more active dissemination of its assessments in the future. An important goal for the Council is to extend the reach of its reports through strategic promotion and dissemination.

The Council's strategic communications framework describes 2010/11 as a foundational year for building communications tools and capacity. As such, the Council produced its first corporate brochure and assessment-specific promotional tools (plain language summaries of reports, bookmarks, and banners). Additionally, the Council launched a quarterly electronic newsletter and completed a major redesign of its website. Response to the newsletter has been positive and the Council's visibility online continues to grow.

As part of the *Council's Assessment Lifecycle Methodology* (CALM), each assessment is required to have a specific communications plan. In 2010/11, the Council launched two new assessments. Each launch was supported by a communications plan that informed messaging, dissemination, and release tactics. Both



assessments were successfully released and received national media coverage. Additionally, distribution was wide-reaching, ensuring that those interested in the assessment topic were notified of the report and its findings.

In an effort to further raise awareness about the Council and its work, its staff, Board members, and expert panel volunteers have attended and participated in a number of strategic conferences to inform key audiences about the importance of science-based assessments and to brief them on specific assessment findings. The Council's President also participated in the annual meetings of the Member Academies and has continued to foster relationships with decision-makers, leaders within academia, and potential assessment sponsors.

#### MEASURING SUCCESS

The 2010 external evaluation noted the importance of documenting and describing the impacts of Council assessments in order to communicate their value to the federal government and other stakeholders on an ongoing basis. To that end, in the fall of 2010, the Council began developing a comprehensive, systemic approach to measuring the quality and impact of its assessments. This system, once complete, will ensure that the Council has regular, rigorous, and consistent procedures in place for measuring and tracking the full range of impacts from Council assessments.

The Council's approach to measuring the impact of its assessments will include several components:

- An overarching evaluation framework will guide monitoring activities by articulating the intended impacts of assessments according to key groups of stakeholders.
- A series of impact monitoring and analysis tools will be developed that will collect and record evidence of assessment impacts. These tools could include feedback surveys for assessment sponsors; records of recognized



policy and program impacts; citation analysis of Council assessments; records of staff participation in conferences, workshops, and other outreach events; collections of testimonials on the value of assessments; and general surveys to measure awareness of the Council and usage of Council assessments.

• A coordinated implementation schedule for these tools is also being developed to ensure that the Council is capturing both short- and long-term impacts on an ongoing basis, with key milestones occurring two and five years following assessment publication.

This framework and collection of tools will provide a valuable foundation of evidence from which the Council can track the impacts of its assessments. The resulting information will enable the Council to demonstrate the substantial positive impacts that assessments continue to have on public policy development in Canada, and allow the organization to continue to refine and strengthen the assessment process.

The assessment impact evaluation system is now entering the final stages of development, and will be fully implemented by the summer of 2011.

I believe in evidence. I believe in observation, measurement, and reasoning, confirmed by independent observers. I'll believe anything, no matter how wild and ridiculous, if there is evidence for it. The wilder and more ridiculous something is, however, the firmer and more solid the evidence will have to be.

ISAAC ASIMOV

### COUNCIL VOLUNTEERS

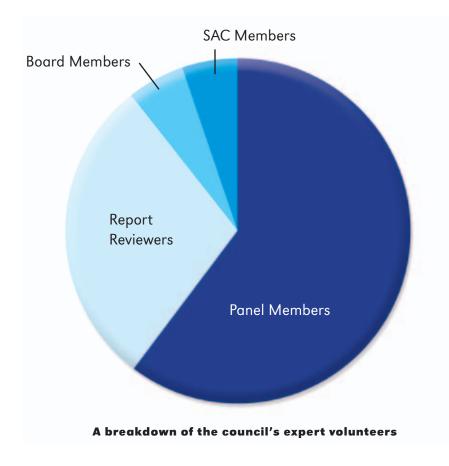
The Council would not have had another successful year without the dedicated expert volunteers who work tirelessly to sort through the volumes of scientific information required to produce high-quality, independent, and authoritative reports; and who contributed to the Council's operations through their participation on expert panels, the Board of Governors, Scientific Advisory Committee, and as report reviewers.

Since 2005 more than 370 expert volunteers have worked with the Council and its Secretariat.

A breakdown of Council volunteers is provided below:

- 226 Panel Members
- 108 Report Reviewers
- 20 Board of Governors Members
- 20 Scientific Advisory Committee Members

The Council would like to recognize all of its expert volunteers and specifically those who worked with the Council in 2010/11 for their exceptional contributions and unwavering dedication to the Council and its work.



#### THE EXPERT PANEL ON RESEARCH INTEGRITY

**PAUL DAVENPORT,** O.C., (Chair), President Emeritus, University of Western Ontario (London, ON)

**WESLEY CRAGG**, *Professor*, *York University* (*Toronto*, *ON*)

MARTHA CRAGO, Vice President (Research), Dalhousie University (Halifax, NS)

**DANIELE FANELLI,** Marie Curie Research Fellow, Innogen-ISSTI, The University of Edinburgh (Edinburgh, United Kingdom)

**JEAN-MARC FLEURY,** Bell Globemedia Chair in Science Journalism, Université Laval and Executive Director, World Federation of Science Journalists (Gatineau, QC)

**LISA M. GIVEN,** Professor, School of Library and Information Studies, University of Alberta (Edmonton, AB)

**RONALD HESLEGRAVE,** Senior Scientist, Research Ethics, University Health Network, University of Toronto (Toronto, ON) **BRIAN C. MARTINSON,** Senior Research Investigator, HealthPartners Research Foundation (Minneapolis, MN)

**KATHRYN O'HARA**, President, Canadian Science Writers' Association, Associate Professor and CTV Chair in Science Broadcast Journalism, Carleton University (Ottawa, ON)

**B. MARIO PINTO,** FRSC, Vice-President, Research and Professor, Simon Fraser University (Burnaby, BC)

**R. KERRY ROWE,** FRSC, FCAE, Vice-Principal (Research), Queen's University (Kingston, ON)

**CLIVE SELIGMAN,** *Professor, University of Western Ontario (London, ON)* 

**DANIEL W. SMITH,** FRSC, FCAE, Professor Emeritus, University of Alberta and University of Calgary (Adjunct) (Calgary, AB)

**MICHÈLE STANTON-JEAN,** O.Q., Visiting Scholar, Faculty of Law, Centre de recherche en droit public, Université de Montréal (Montréal, QC)

#### REPORT REVIEWERS FOR THE EXPERT PANEL ON RESEARCH INTEGRITY

MARTIN BOBROW, Former Deputy Chairman, Wellcome Trust and Professor Emeritus in Medical Genetics, University of Cambridge (Cambridge, United Kingdom)

**PIERRE-GERLIER FOREST,** FCAHS, President, Trudeau Foundation (Montréal, QC)

**PAUL HÉBERT,** Editor-in-Chief, Canadian Medical Association Journal; Physician, Ottawa Hospital; Senior Scientist, Clinical Epidemiology, Ottawa Hospital Research Institute; and Professor of Medicine, University of Ottawa (Ottawa, ON)

**BARTHA MARIA KNOPPERS,** O.C., FCAHS, Director, Centre of Genomics and Policy and Professor, Human Genetics, Faculty of Medicine, McGill University (Montréal, QC)

**JULIA LEVY**, O.C., FRSC, Co-founder, QLT Inc. (Vancouver, BC)

**NIGEL LLOYD,** Former Executive Vice-President of NSERC and Former NSERC Director General, Research Grants and Scholarships (Ottawa, ON) **DEBORAH POFF,** President and Vice-Chancellor, Brandon University, (Brandon, MB) and Professor of Philosophy, School of Business and Political Science, University of Northern British Columbia (Prince George, BC)

**BERNARD SHAPIRO,** O.C., Former Ethics Commissioner of Canada and Former Principal and Vice-Chancellor, McGill University (Montréal, QC)

**NICK STENECK**, Director of the Research Ethics and Integrity Program, Michigan Institute for Clinical and Health Research and Professor Emeritus of History, University of Michigan (Ann Arbor, MI)

**WILL VAN DEN HOONAARD,** Professor Emeritus, Department of Sociology, University of New Brunswick (Fredericton, NB)

**DAVID VAUX,** Professor, Department of Biochemistry, La Trobe University and Principal Research Fellow, Molecular Genetics of Cancer Division, Walter and Eliza Hall Institute of Medical Research (Melbourne, Australia)

The report review procedure was monitored on behalf of the Council's Board of Governors and Scientific Advisory Committee by **DR. JOHN HEPBURN**, FRSC.

#### THE EXPERT PANEL ON BIODIVERSITY SCIENCE

**THOMAS E. LOVEJOY** (Chair), Biodiversity Chair, Heinz Center for Science, Economics and the Environment (Washington, DC)

**LUC BROUILLET,** Professor and Curator of the Marie-Victorin Herbarium, Institut de recherche en biologie végétale, Université de Montréal (Montréal, QC)

**W. FORD DOOLITTLE,** FRSC, Professor, Dalhousie University (Halifax, NS)

**ANDREW GONZALEZ**, Professor and Canada Research Chair in Biodiversity Science, and Director of the Quebec Centre for Biodiversity Science, McGill University (Montréal, QC)

**DAVID M. GREEN,** Professor and Director of the Redpath Museum, McGill University (Montréal, QC)

**PETER HALL,** Honourary Research Associate (retired), Agriculture and Agri-Food Canada, (Ottawa, ON)

**PAUL HEBERT,** FRSC, Professor and Director, Biodiversity Institute of Ontario, University of Guelph (Guelph, ON) **THORA MARTINA HERRMANN,** Professor and Canada Research Chair in Ethnoecology and Biodiversity Conservation, University of Montréal (Montréal, QC)

**DOUGLAS HYDE,** *Executive Director, NatureServe Canada (Ottawa, ON)* 

JIHYUN LEE, Environmental Affairs Officer, Marine and Coastal Biodiversity and Ecosystems Approach, United Nations Environment Programme/Secretariat of the Convention on Biological Diversity (Montréal, QC)

**WAYNE P. MADDISON,** Professor and Canada Research Chair in Biodiversity and Systematics, and Director of the Beaty Biodiversity Museum, University of British Columbia (Vancouver, BC)

**SARAH P. OTTO,** FRSC, Professor and Director of the Biodiversity Research Centre, University of British Columbia (Vancouver, BC)

**FELIX SPERLING,** Professor and Curator of the E.H. Strickland Entomological Museum, University of Alberta (Edmonton, AB)

**R. PAUL THOMPSON,** *Professor, University of Toronto (Toronto, ON)* 

#### REPORT REVIEWERS FOR THE EXPERT PANEL ON BIODIVERSITY SCIENCE

**SUZANNE CARRIÈRE,** Biologist, Environment and Natural Resources, Government of the Northwest Territories (Yellowknife, NWT)

**BROCK FENTON**, Professor of Biology, University of Western Ontario (London, ON)

**JEREMY KERR,** Associate Professor, Department of Biology, University of Ottawa (Ottawa, ON)

**RICHARD P. LANE,** *Director of Science, The Natural History Museum (London, United Kingdom)* 

JEFFREY B. MARLIAVE, Vice President, Marine Science, Vancouver Aquarium (Vancouver, BC)

**STEPHEN A. MARSHALL**, Professor, School of Environmental Sciences, University of Guelph (Guelph, ON) WILLIAM W. MOHN, Professor, Department of Microbiology and Immunology, University of British Columbia (Vancouver, BC)

**LAURENCE PACKER,** *Professor, Department of Biology, York University (Toronto, ON)* 

**PETER H. RAVEN,** *President, Missouri Botanical Garden (St. Louis, MI)* 

**MURRAY A. RUDD,** Lecturer, Environment Department, University of York (York, United Kingdom)

**GARY W. SAUNDERS,** Canada Research Chair in Molecular Systematics and Biodiversity, University of New Brunswick (Fredericton, NB)

MARCIA J. WATERWAY, Associate Professor, Plant Science Department, McGill University (Sainte-Anne-de-Bellevue, QC)

The report review procedure was monitored on behalf of the Council's Board of Governors and Scientific Advisory Committee by Professor **JOHN SMOL**, FRSC.

#### THE EXPERT PANEL ON DIGITAL TECHNOLOGIES AND INNOVATION

**PETER J. NICHOLSON**, C.M. (Chair), Inaugural President, Council of Canadian Academies (Ottawa, ON)

**TOM BRZUSTOWSKI**, O.C., FRSC, FCAE, RBC Financial Group Professor in the Commercialization of Innovation, University of Ottawa (Ottawa, ON)

MARCEL CÔTÉ, Founding Partner, SECOR Inc. (Montréal, QC) **CLAUDE JEAN**, Executive Vice President and General Manager, DALSA Semiconducter Foundry (Bormont, QC)

WILLIAM PULLEYBLANK, Professor of Operations Research, U.S. Military Academy, West Point (New York, NY)

**ANDREW SHARPE,** *Executive Director, Centre for the Study of Living Standards (Ottawa, ON)* 

**JOHN THOMPSON,** Chairman, TD Bank Financial Group (Toronto, ON)

#### REPORT REVIEWERS FOR THE EXPERT PANEL ON DIGITAL TECHNOLOGIES AND INNOVATION

**ARTHUR J. CORDELL**, Adjunct Professor, Mass Communications, Carleton University and Former Special Advisor to Industry Canada (Ottawa, ON)

**CHARLES H. DAVIS,** Professor, Edward S. Rogers Sr. Research Chair of Media Management and Entrepreneurship, Ryerson University (Toronto, ON) **GINNY DYBENKO,** Dean, School of Business and Economics, Wilfrid Laurier University (Waterloo, ON)

**LIB GIBSON,** Adjunct Professor, Rotman School of Management, University of Toronto (Toronto, ON)

The report review procedure was monitored on behalf of the Council's Board of Governors and Scientific Advisory Committee by **JOSEPH D. WRIGHT,** FCAE.

#### THE EXPERT PANEL ON APPROACHES TO ANIMAL HEALTH RISK ASSESSMENT<sup>1</sup>

**ALASTAIR CRIBB,** FCAHS, (Chair), Dean & Professor, Faculty of Veterinary Medicine, University of Calgary (Calgary, AB)

**IAN R. DOHOO,** FCAHS, Director, Centre for Veterinary Epidemiological Research, University of Prince Edward Island (Charlottetown, PEI)

**DARRELL DONAHUE,** *Professor, University of Maine (Orono, ME)* 

**JOHN M. FAIRBROTHER,** FCAHS, Professor, Université de Montréal (Montréal, QC)

**DIANE FRANK,** Associate Professor, Faculté de médecine vétérinaire, Université de Montréal (Montréal, QC)

**DAVID C. HALL,** Associate Professor, Faculty of Veterinary Medicine, University of Calgary (Calgary, AB) **H. SCOTT HURD,** Associate Professor, College of Veterinary Medicine, Iowa State University (Ames, IA)

**DENNIS LAYCRAFT**, Executive Vice-President, Canadian Cattlemen's Association (Calgary, AB)

**FREDERICK A. LEIGHTON,** Executive Director, Canadian Cooperative Wildlife Health Centre (Saskatoon, SK)

THÉRÈSE LEROUX, Professor, Public Policy Research Centre, Université de Montreal

**DIRK PFEIFFER,** Professor of Veterinary Epidemiology, Royal Veterinary College (North Mymms, United Kingdom)

JAN SARGEANT, Director, Centre for Public Health and Zoonoses, University of Guelph (Guelph, ON)

1 Names of the report reviewers for the Animal Health Risk Assessment could not be listed in the 2010/11 Annual Report as the assessment had not yet been publicly released.

#### THE EXPERT PANEL ON THE INTEGRATED TESTING OF PESTICIDES<sup>1</sup>

**LEONARD RITTER** (Chair), Professor, Toxicology, Department of Environmental Biology and Executive Director, Canadian Network of Toxicology Centres, University of Guelph (Guelph, ON)

**CHRISTOPHER P. AUSTIN,** Director, National Institutes of Health, Chemical Genomics Centre (Bethesda, MD)

JOHN R. (JACK) BEND, Distinguished University Professor, Department of Pathology, Department of Physiology and Pharmacology, and Department of Pediatrics, Schulich School of Medicine and Dentistry, University of Western Ontario (London, ON)

**CONRAD G. BRUNK,** Professor of Philosophy, University of Victoria (Victoria, BC)

**TIMOTHY CAULFIELD,** FRSC, FCAHS, Professor, Faculty of Law and School of Public Health; Research Director, Health Law Institute; and Canada Research Chair in Health Law and Policy, University of Alberta (Edmonton, AB)

**VICKI L. DELLARCO,** Science Advisor, Office of Pesticide Programs, United States Environmental Protection Agency (Washington, DC)

**PAUL DEMERS,** Director, School of Environmental Health, College for Interdisciplinary Studies and Professor, School of Population and Public Health, Faculty of Medicine, University of British Columbia (Vancouver, BC) **WARREN FOSTER,** Professor, Department of Obstetrics and Gynaecology and Director, Centre for Reproductive Care, McMaster University Health Sciences Centre (Hamilton, ON)

**CLAIRE INFANTE-RIVARD,** Professor, Department of Epidemiology, Biostatistics and Occupational Health, Faculty of Medicine, University of McGill (Montréal, QC)

**CATHERINE JUMARIE**, Professor, Department of Biological Sciences, Université du Québec à Montréal (Montréal, QC)

**SAM KACEW,** Associate Director of Toxicology, R. Samuel McLaughlin Centre for Population Health Risk Assessment, University of Ottawa (Ottawa, ON)

**ROBERT J. KAVLOCK**, Director, National Center for Computational Toxicology, United States Environmental Protection Agency (Durham, NC)

**DANIEL KREWSKI**, Professor of Epidemiology and Community Medicine and Director, R. Samuel McLaughlin Centre for Population Health Risk Assessment, University of (Ottawa, ON)

**PAUL G. MEZEY,** Canada Research Chair in Scientific Modelling and Simulation, Memorial University of Newfoundland (St. John's, NL)

**TERRY SCHULTZ,** Emeritus Professor, Department of Comparative Medicine, College of Veterinary Medicine, University of Tennessee (Knoxville, TN)

1 Names of the report reviewers for the Integrated Testing of Pesticides Assessment could not be listed in the 2010/11 Annual Report as the assessment had not yet been publicly released.

## THE EXPERT PANEL ON SCIENCE PERFORMANCE AND RESEARCH FUNDING

**RITA COLWELL** (Chair), Distinguished University Professor, University of Maryland, College Park; Johns Hopkins University Bloomberg School of Public Health; Senior Advisor and Chairman Emeritus, Canon U.S. Life Sciences, Inc.; and President and CEO, CosmosID, Inc. (College Park, MD)

**MAX BLOUW**, President and Vice-Chancellor, Wilfrid Laurier University (Waterloo, ON)

**LINDA BUTLER,** Visiting Fellow, Australian National University (ANU) and Conjoint Professor, University of Newcastle (Soldiers Point, Australia)

**SUSAN E. COZZENS,** Professor of Public Policy; Director of the Technology Policy and Assessment Centre and Associate Dean for Research, School of Public Policy, Ivan Allen College, Georgia Tech (Atlanta, GA)

**IRWIN FELLER,** Senior Visiting Scientist, American Association for the Advancement of Science (AAAS) (State College, PA)

**YVES GINGRAS,** Professor and Canada Research Chair in History and Sociology of Science, Université du Québec à Montréal (UQAM) (Montréal, QC)

JACQUES HURTUBISE, FRSC, Chair, Department of Mathematics and Statistics, McGill University (Montréal, QC) **GRETCHEN JORDAN,** Principal Member of Technical Staff, Sandia National Laboratories (Washington, DC)

**JOHN S. MACDONALD,** O.C., FCAE, Chairman and Chief Executive Officer, Day4 Energy, Inc. (Burnaby, BC)

MARJA MAKAROW, Chief Executive, European Science Foundation (Strausbourg, France)

**JAMES (JIM) C. MCGRODDY,** *Retired, International Business Machines (Briarcliff Manor, NY)* 

**TIM MCTIERNAN,** Assistant Vice-President, Government, Institutional and Community Relations, University of Toronto (Toronto, ON)

**SIR KEITH O'NIONS,** *Rector, Imperial College London (London, United Kingdom)* 

**RENÉ SIMARD,** O.C., FRSC, FCAE, Professor Emeritus, Université de Montréal (Montréal, QC)

**ALAN E. WINTER,** FCAE, President and CEO, Genome British Columbia (Vancouver, BC)

**RONALD WOODWARD,** President, Clockbuilder Consulting, Ltd. and President Emeritus, Red Deer College (Red Deer, AB)

## THE EXPERT PANEL ON WOMEN IN UNIVERSITY RESEARCH

**LORNA MARSDEN,** O.C., O.Ont, (Chair) President Emeritus and Professor, York University (Toronto, ON)

JANICE G. DODD, Professor and Department Head, Physiology and Professor, Women's and Gender Studies, University of Manitoba (Winnipeg, MB)

NADIA GHAZZALI, Full Professor, Department of Mathematics and Statistics and NSERC-Industrial Alliance Chair for Women in Science and Engineering in Québec, Université Laval (Québec, QC)

**ALISON M. KONRAD**, Professor, Organizational Behavior and Corus Entertainment Chair in Women in Management, Richard Ivey School of Business, University of Western Ontario (London, ON)

**YVONNE A. LEFEBVRE,** FCAHS, Vice-President (Research and Academic Affairs), Providence Health Care (PHC); President, PHC Research Institute; and Associate Dean of Research, Faculty of Medicine, University of British Columbia (Vancouver, BC)

**GEOFFREY OLDHAM**, Honorary Professor and Former Director, Science Policy Research Unit, University of Sussex and Former UK Delegate, UN Commission on Science and Technology for Development (Seaford, United Kingdom)

LYNNE-MARIE POSTOVIT, Assistant Professor, Anatomy and Cell Biology, University of Western Ontario and Canada's Young Researcher Award Winner (London, ON) **LUISA PRISTA,** Head, Environmental Technologies Unit, European Commission's Research and Innovation Directorate-General (Brussels, Belgium)

**WENDY J. ROBBINS,** Full Professor, Department of English, University of New Brunswick and Former Vice-President, Women's Issues, Canadian Federation of the Humanities and Social Sciences (Fredericton, NB)

**PAMELA ROBINSON,** Associate Professor, School of Urban and Regional Planning, Ryerson University (Toronto, ON)

**RIMA ROZEN,** FRSC, FCAHS, Associate Vice-Principal (Research and International Relations) and James McGill Professor, McGill University (Montréal, QC)

**KAREN SOBEL,** Vice-President, Project Operations, SNC-Lavalin (Calgary, AB)

**VERONICA STRONG-BOAG,** FRSC, Professor, Women's and Gender Studies and Educational Studies; and Founding Director, Centre for Women's and Gender Studies, University of British Columbia (Vancouver, BC)

**LORNA WILLIAMS,** Associate Professor, Faculty of Education and Department of Linguistics and Canada Research Chair in Indigenous Knowledge and Learning, University of Victoria (Victoria, BC)

**MICHAEL C. WOLFSON,** FCAHS, Canada Research Chair in Population Health Modeling/ Populomics, University of Ottawa (Ottawa, ON) The facts are always friendly, every bit of evidence one can acquire, in any area, leads one that much closer to what is true.

CARL ROGERS

# THE COUNCIL OF CANADIAN ACADEMIES: CORPORATE PROFILE

The Council of Canadian Academies is a not-for-profit organization registered under the Canada Corporations Act.

# ASSESSMENTS

The Council generates in-depth, evidence-based assessments authored by panels of independent experts. These assessments provide resources to inform the evolution of public policy on matters for which a science perspective is relevant.

A Council assessment is a multidisciplinary account of the state of science underlying an issue of public policy importance. Science-based assessments are typically descriptive and diagnostic, rather than prescriptive in the presentation of findings, but where possible include expert judgment on matters of science, supported by the appropriate evidence. Council assessments can take many forms, including:

- an assessment of the state of knowledge;
- identification of knowledge gaps;
- cost-benefit analysis;
- risk evaluation;
- options for a science agenda; and
- expert judgment.

Proposed assessment topics requested by the Government of Canada are selected through a cross-government competitive process and submitted to the Council for consideration. The criteria applied to evaluate proposed assessments are as follows:

### **Government criteria:**

- The proposal is relevant to the agenda of the department/agency and to Canada's policy agenda.
- The assessment topic is timely and the timeframe for assessment is consistent with the needs of the department/agency and of Canada.
- The value provided by the Council is unique.
- The assessment topic is a science-based question that has been coordinated with relevant departments/ agencies and external stakeholders.

### **Council criteria**:

- The topic is of importance to Canada and its citizens.
- The appropriate expertise can be assembled and the required timeline can be met.
- The existing state of knowledge merits the assessment.
- Science underpins the question and its response.

### Asset criteria:

- The report is likely to be widely consulted within and outside government (e.g., other levels of government or organizations have a demonstrated interest in the outcome of the assessment).
- The topic is uniquely relevant to Canada.
- The topic is an international issue for which a Canadian assessment is important at this time.

The Council's Board of Governors oversees the integrity of the assessment process. The Board formally approves assessment questions, expert panel membership, assessment budgets and timelines, and report review processes. It is assisted by a Scientific Advisory Committee, currently composed of 15 eminent authorities whose collective expertise spans the range of likely topics to be addressed by the Council. Membership on expert panels comes primarily from the academic sector and includes both Canadian and international authorities. All panel members serve without remuneration.

To protect the independence of the assessment process, the sponsor of an assessment does not participate in the conduct of the assessment, review drafts of the report, or propose any changes to the report before its release. Assessment reports undergo a formal expert ("report") review process to assure quality and objectivity. The Board is responsible for authorizing the public release of final assessment reports and is advised in this regard by a report review monitor who ensures that expert panels give full and fair consideration to the comments of the external reviewers of every Council report. All final assessment reports are posted on the Council's website, www.scienceadvice.ca, in both official languages and may be downloaded free of charge to ensure their availability to the public.

### Funding

The Council, which began operation in the fall of 2005, operates at arm's length from government, but with 10-year funding of \$30 million provided by the Government of Canada. This founding grant is intended to support core operations of the Council through to March 31, 2015. Conditions on the use of the funds provided by the government are set out in a formal funding agreement between the Council and the Government of Canada as represented by the Minister of Industry. The Council also receives direct revenue in relation to any assessments conducted outside the scope of the Council's Funding Agreement.

### **Structure and Governance**

The Council is governed by a 12-member Board of Governors. The Board is responsible for setting the strategic direction of the organization, ensuring the fulfillment of the Council's mandate, and providing oversight to the Council's operations.

Each founding Member Academy appoints two governors. These six governors appoint two additional governors from the general public. The remaining four governors are proposed to the Board by the Minister of Industry and are formally appointed through a resolution of the Board. Importantly, to maintain its independence from government, the majority of governors must not have status as Agents of Canada (employees of the Crown). Board members are listed in Annex 1.

### **Committees of the Board**

Governance of the Council is supported by five committees of the Board of Governors:

- Executive Committee
- Finance and Audit Committee
- Investment Committee
- Nominations, Selection, and Governance Committee
- Human Resources and Compensation Committee

### Scientific Advisory Committee

The work of the Council is supported by a Board-appointed Scientific Advisory Committee that provides advice on the substance and procedures of expert assessments, and particularly on the following aspects:

- the generation of potential subjects for future assessments;
- the suitability of subjects proposed to the Council for expert assessment;
- the terms of reference for the independent expert panels that carry out the assessments;
- potential membership of expert panels;
- the process of peer review of draft assessment reports; and
- communication of final assessment reports with the objective of enhancing impact.

Membership of the Scientific Advisory Committee is listed in Annex I.

### **Council Secretariat**

The activities of the Council are carried out by a small staff, under the direction of a full-time president. Council staff provides support to expert panels with research, writing, and overall management of logistics in the production of assessments. The staff also supports the work of the Scientific Advisory Committee, particularly with respect to analysis of proposed assessment topics, identification of panel membership, and report review processes.

Council employees on staff during the 2010/11 fiscal year are listed in Annex II.

## OPERATIONS

The focus of the Council over 2010/11 has been fourfold: a smooth leadership transition; completion and launch of high-quality assessments; responding to the five-year external review; and developing a three-year strategic plan. The Council continued to enhance its operational practices through improvements to the *Council Assessment Lifecycle Methodology* and the development of a comprehensive, systematic approach to measuring the quality and impact of its assessments. This system, once complete, will ensure that the Council has regular, rigorous, and consistent procedures in place for measuring and tracking the full range of impacts from Council assessments.

### Governance

Following the completion of the terms of Heather Munroe-Blum, FRSC, and the late Paul Bernard (Minister Appointee), the Board of Governors welcomed two new members in June 2010. Dr. Roderick A. Macdonald, the F.R. Scott Professor of Constitutional and Public Law at McGill University joined as a representative of the Royal Society of Canada. Claude Jean, Executive Vice President and General Manager of DALSA Semiconductor joined the Board as an Industry Canada nominee. As well, the appointment of Richard Drouin, C.C., Counsel, McCarthy Tétrault was renewed in mid-2010.

It was with great sadness that the Council learned about the passing of Paul Bernard in February 2011. During his time on the Board, he made an important contribution to the Council and his input assisted in moving the organization forward. On behalf of the Board, employees and friends of the Council, the Council extends condolences to his family, friends, and colleagues.

The Scientific Advisory Committee continued to play an important role throughout 2010/11 in the evaluation of proposed assessment questions and proposals. As mentioned previously, in June 2010, Dr. Tom Brzustowski agreed to serve a three-year term as Chair of the Council's SAC. Susan McDaniel, Professor of Sociology and Prentice Research Chair in Global Population and Economy at the University of Lethbridge, was appointed Vice-Chair. The Council also successfully recruited three new members to its SAC. They are:

- **M. Marcel Côté**, Founding Partner of SECOR Consulting. He holds a M.Sc. in Economics from Carnegie Mellon University (Pittsburgh, PA) and is a Fellow of the Center for International Affairs, Harvard University.
- **Dr. Louis Fortier**, Full Professor, Department of Biology at Université Laval and head of ArcticNet. He holds a B.Sc. and M.Sc. from Université Laval, a PhD from McGill University, and was a NATO postdoctoral fellow at the University of Plymouth in the United Kingdom.
- **Dr. Daniel Krewski**, Professor of Epidemiology and Community Medicine at the University of Ottawa, where he also serves as Scientific Director of the R. Samuel McLaughlin Centre for Population Health Risk Assessment.

### **Human Resources**

In addition to the appointment of Ms. Dowdeswell as its President and CEO, the Council continued to demonstrate success in recruiting high-quality professional staff, with the addition of five new individuals, including one Program Director, two Research Associates, one Program Coordinator and a Coordinator, Website and Communications. The Council also engaged a Research Associate in Residence on a part-time basis.



Over the course of the year, Council staff had the opportunity to pursue individual professional development as outlined and agreed to in their annual performance plans. Additionally, the Council arranged for a senior science writer to work with Program Directors on developing clear and concise assessment reports. Program Directors and Research Associates also had the opportunity to work with a presentation coach in January 2011.

A staff retreat was held in August and gave all employees the opportunity to discuss the challenges and opportunities they encounter on a daily basis. Council staff were asked to

consider what they would like to see included in the organization's strategic plan. A discussion surrounding corporate values made up a good part of the day's discussions. Council Board member, Preston Manning, C.C. also attended the day-long retreat, and spoke about the importance of science and how to effectively communicate science to the non-scientist.

In light of the organization's modest size relative to the breadth of its mandate, it is clear that, in addition to the foundation of a permanent, professional Council staff, there will be an ongoing need to bring in specialized experts on a temporary basis. One way this is achieved is through the Graduate Internship Program.

The Council initiated the internship program in late 2009, with two research interns joining the Council and working with assessment teams throughout 2010. The internship program was designed to provide participants with relevant experience in the area of science and policy. The program exposes successful applicants to the interface of the scientific enterprise and society, helping interns to determine if they have the passion for the work involved. By the end of 2010, the Council had successfully recruited three interns, Claire Chesnais, Fiona McArthur and Kori St. Cyr, who began their terms in December 2010 and January 2011.

### **Statement of Investment Policy**

The Council's founding grant is overseen, on behalf of the Board, by the Investment Committee. The committee appointed Towers-Perrin Inc. as the Council's investment consultant to advise on the development of a Statement of Investment Policy. The policy was formally approved by the Board of Governors in June 2007 and is appended as Annex IV. Subsequently, Phillips, Hager & North were selected as the Council's investment manager and Desjardins Trust as custodians.

### Financial Statements: Fiscal year ended March 31, 2011

The Council retained the Ottawa-based accounting firm, Parker Prins Lebano, to audit the financial results for the fiscal year 2010/11. Their report, including the Council's financial statements for 2010/11 is provided in Annex III.

### **Revenue from Other Sources**

The Council did not have any revenue generating projects outside of the government funding agreement and therefore did not receive revenue from other sources in fiscal year 2010/11.

# ANNEX I: BOARD OF GOVERNORS AND SCIENTIFIC ADVISORY COMMITTEE

The Council would like to thank the following individuals who give generously of their time and service without remuneration.

**Elizabeth Parr-Johnston**, C.M., Chair President, Parr-Johnston Consultants Chester Basin, NS

**Richard Drouin**, C.C. Counsel, McCarthy Tétrault Québec City, QC

**Edna Einsiedel** University Professor and Professor of Communication Studies University of Calgary Calgary, AB

Henry Friesen, C.C., FRSC, FCAHS Distinguished Professor Emeritus and Senior Fellow, Centre for the Advancement of Medicine Faculty of Medicine University of Manitoba Winnipeg, MB

**Claude Jean**<sup>1</sup> Executive Vice President and General Manager DALSA Semiconductor Bromont, QC

John Leggat, FCAE Associate Consultant CFN Consultants Ottawa, ON Roderick A. Macdonald, FRSC <sup>1</sup> F.R. Scott Professor of Constitutional and Public Law McGill University Montréal, QC

**Preston Manning**, C.C. Fellow of the Fraser Institute and President and CEO Manning Centre for Building Democracy Calgary, AB

Thomas Marrie, FCAHS President-Elect of the Canadian Academy of Health Sciences and Dean of Medicine Dalhousie University Halifax, NS

John McLaughlin, FCAE Professor of Engineering and President and Vice-Chancellor University of New Brunswick, Fredericton, NB

Heather Munroe-Blum, O.C., FRSC., Q.C. <sup>2</sup> Principal, Vice-Chancellor and Professor in Medicine McGill University Montréal, QC

<sup>1</sup> Joined the Board in FY 2010/11

<sup>2</sup> Left the Board in FY 2010/11

#### Danial D.M. Wayner, FRSC

Vice President, Physical Sciences National Research Council of Canada Ottawa, ON

### Catharine Whiteside, FCAHS

Dean, Faculty of Medicine Vice-Provost Relations with Health Care Institutions, University of Toronto and President, Canadian Academy of Health Sciences Toronto, ON

### Scientific Advisory Committee of the Council of Canadian Academies

Tom Brzustowski, O.C., FRSC, FCAE, (Chair) <sup>1</sup> RBC Financial Group Professor in the Commercialization of Innovation University of Ottawa Ottawa, ON

**Susan A. McDaniel**, FRSC, (Vice-Chair) Professor of Sociology and Prentice Research Chair in Global Population and Economy University of Lethbridge Lethbridge, AB

Michel G. Bergeron, FCAHS Director, Division of Microbiology and Centre de recherche en infectologie Université Laval Québec City, QC

Margaret Conrad, O.C., FRSC Professor Emerita, Honorary Research Professor University of New Brunswick Fredericton, NB

Marcel Côté <sup>2</sup> Founding Partner SECOR Inc. Montréal, QC Louis Fortier, O.C.<sup>2</sup> Full Professor Department of Biology Université Laval Québec City, QC

**Jean Gray**, C.M., FCAHS Professor of Medicine (Emeritus) Dalhousie University Halifax, NS

Judith G. Hall, O.C., FCAHS Professor of Pediatrics and Medical Genetics University of British Columbia Vancouver, BC John Hepburn, FRSC Vice-President of Research University of British Columbia Vancouver, BC

The Honourable Donald J. Johnston, O.C.

Former Secretary-General of the OECD Montréal, QC

 $^{\scriptscriptstyle 1}$  Was appointed to a three-year term as Chair in FY 2010/11

<sup>2</sup> Joined SAC in FY 2010/11

### Daniel Krewski<sup>1</sup>

Professor of Epidemiology and Community Medicine and Scientific Director R. Samuel McLaughlin Centre for Population Health Risk Assessment University of Ottawa Ottawa. ON

### Norbert R. Morgenstern, C.M., FRSC, FCAE Professor (Emeritus), Civil Engineering University of Alberta

### William Pulleyblank

Edmonton, AB

Professor of Operations Research U.S. Military Academy, West Point New York, NY John P. Smol, FRSC

Co-Director of the Paleoecological Environmental Assessment and Research Laboratory Queen's University Kingston, ON

**Joseph D. Wright**, FCAE Retired President and CEO Pulp and Paper Research Institute (PAPRICAN) Gibsons, BC

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<sup>1</sup> Joined SAC in FY 2010/11

# ANNEX II: COUNCIL STAFF

Elizabeth Dowdeswell <sup>1</sup> President and CEO

Janet Bax <sup>1</sup> Program Director

Dane Berry <sup>1</sup> Research Associate

**Tom Bursey** Executive Director, Corporate Services Alison Crone<sup>2</sup> Program Coordinator

Kristen Cucan Coordinator, Special Projects

Ann Dale <sup>1</sup> Research Associate in Residence

Marc Dufresne Research Associate **Eleanor Fast** Program Director

Chris Hamilton Specialist, Communications (6-month term)

**Tim Krywulak** Program Director

Lisa Lambert <sup>2</sup> Research Associate

Kelly Loverock <sup>1</sup> Coordinator, Communications and Website

Brianna McGrath<sup>1</sup> Program Coordinator

**Tracey McKinlay** Executive Assistant to the President

**Christina McMahon** Program Coordinator

Cathleen Meechan Director, Communications

**Emmanuel Mongin**<sup>1</sup> Research Associate

Nancy Neil Manager, Office Operations Renata Osika Program Director

Samantha Rae Manager, Communications

Joe Rowsell<sup>2</sup> Research Associate

Wendy Shen Program Coordinator

Jason Sherriff<sup>2</sup> Coordinator, Communications and Website

Christina Stachulak Program Director

Maria Trainer Program Director

Genevieve Trottier<sup>2</sup> Program Director

### **Council Interns**

Fiona McArthur

Claire Chesnais

Kori St. Cyr

 $^{\rm 1}$  Joined the Council in 2010/11  $^{\rm 2}$  Left the Council in 2010/11.

\* Ranges of remuneration: for the fiscal year ending March 31, 2011, compensation was within the following salary ranges: Council Management (senior officers): Elizabeth Dowdeswell, President (\$180,000 - \$230,000), Tom Bursey, Executive Director, Corporate Services (\$110,000 - \$170,000), Cathleen Meechan, Director, Communications (\$100,000 - \$160,000). Employees whose remuneration exceeds \$100,000, including any fee, allowance or other benefits paid in year: none.

# ANNEX III: FINANCIAL STATEMENTS AND AUDITOR'S REPORT

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# INDEPENDENT AUDITORS' REPORT

To the Board of Governors, COUNCIL OF CANADIAN ACADEMIES

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the COUNCIL OF CANADIAN ACADEMIES, which comprise the Statement of Financial Position as at March 31, 2011, and the Statements of Operations and Cash Flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

# Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

### Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the company or organization's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company or organization's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

# Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the COUNCIL OF CANADIAN ACADEMIES as of March 31, 2011, and its financial performance and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

# S Parker

Parker Prins Lebano Chartered Accountants Professional Corporation

Authorized to practice public accounting by The Institute of Chartered Accountants of Ontario

Ottawa, Canada May 18, 2011

# STATEMENT OF FINANCIAL POSITION

as at March 31, 2011

	2011		2010	
ASSETS				
CURRENT				
Cash	\$ 668,433	\$	124,012	
Investments	20,489,536		24,352,183	
Accounts receivable (note 8)	344,760	<b>344,760</b> 254,		
Prepaid expenses (note 9)	33,418		41,799	
	21,536,147		24,772,543	
CAPITAL (note 4)	253,748		277,321	
	\$ 21,789,895	\$	25,049,864	
LIABILITIES				
CURRENT				
Accounts payable	\$ 88,971	\$	113,110	
DEFERRED CONTRIBUTIONS (note 5)	21,700,924		24,936,754	
NET ASSETS (note 7)	-		-	
	\$ 21,789,895	\$	25,049,864	

On behalf of the board:

Director

Elizabeth Parr-Johnston, C.M.

The accompanying notes are an integral part of the financial statements.

# STATEMENT OF OPERATIONS

for the year ended March 31, 2011

	2011	2010
REVENUE		
Investment income	\$ 1,039,810	\$ 1,370,007
Add: grant revenue	2,928,991	2,556,376
Revenue from other sources	25,530	-
	3,994,331	3,926,383
EXPENDITURE		
Amortization	101,828	99,808
Assessment consultants	264,530	27,815
Central operations	298,438	273,946
Governance	106,181	138,806
Investment consultants	94,739	80,802
Panel meetings	577,373	508,537
Publications	202,274	334,762
Rent	378,384	285,600
Salaries and benefits	1,901,680	1,830,968
Other activities	68,904	345,339
	3,994,331	3,926,383
EXCESS OF REVENUE OVER EXPENDITURES FOR THE YEAR	\$ –	\$ -

The accompanying notes are an integral part of the financial statements.

# STATEMENT OF CASH FLOWS

for the year ended March 31, 2011

	2011		2010
CASH FLOWS FROM (USED FOR) OPERATING ACTIVITIES			
Excess of revenue over expenditure for the year	<b>\$</b> –	\$	-
Items not requiring an outlay of cash:			
Amortization	101,828		99,808
Unrealized loss (gain) on	306,839		746,070
Net change to non cash items related to operations:			
Accounts receivable	(90,211)	1	(12,988)
Prepaid expenses	8,381		3,377
Accounts payable	(24,139)	1	41,423
Deferred contributions	(3,235,830)	1	(3,302,447)
	(2,933,132)	1	(2,424,757)
CASH FLOWS FROM (USED FOR) INVESTING ACTIVITIES			
Purchase of capital assets	(78,254)		(103,970)
Redemption of investments	3,555,807		2,476,227
	3,477,553		2,372,257
NET INCREASE (DECREASE) IN CASH	544,421		(52,500)
CASH, BEGINNING OF YEAR	124,012		176,512
CASH, END OF YEAR	\$ 668,433	\$	124,012

The accompanying notes are an integral part of the financial statements.

# NOTES TO FINANCIAL STATEMENTS

March 31, 2011

### 1. Organization's Purpose

The Council of Canadian Academies is a not for profit organization incorporated in April 2002 under the *Canada Corporations Act* and began operations in 2005.

The Council's main purpose is to provide a source of credible, independent, expert assessments and evidence based advice on the science that is relevant to matters of public interest, and to provide a voice for Canadians on behalf of the sciences on the national and international scene.

### 2. Significant Accounting Policies

### Capital Assets

Capital assets consisting of furniture and fixtures, computer equipment and software, and leasehold improvements are stated at cost. Amortization has been provided on the diminishing balance or straight line basis as follows with half of amortization taken in the year of acquisition:

Furniture and fixtures30% per annumComputer and software45% per annumLeasehold improvements10 years

### Revenue Recognition

The organization follows the deferral method of accounting for contributions. Restricted contributions are recognized as revenue in the year in which the related expenses are incurred. Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

#### Investments

Investments are recorded at market value.

#### Investment Income

Investment income is recorded as earned.

Unrealized gains on investments are recognized as an increase in deferred contributions.

Investment income on investments is recorded as income on the statement of operations.

### **3. Financial Instruments**

Financial instruments reflected in the statement of financial position consist of cash, investments, accounts receivable and accounts payable. The Council does not hold or issue financial instruments for trading purposes and does not hold or issue derivative financial instruments.

### Interest Rate Risk

The Council is subject to cash flow risk with respect to its holdings of investments.

Bonds and term deposits, with market values of \$20,704,391 include Government of Canada, Provincial Government and Corporate Bonds with a carrying value of \$20,687,897. The bonds and term deposits mature at varying dates between August 15, 2012 and November 1, 2017.

Cash funds on deposit at an investment brokerage account receive interest at rates that fluctuate with bank prime.

### 4. Capital Assets

	Cost	Accumulated Amortization				Net	2011 Book Value	Net B	2010 ook Value
Furniture and fixtures	\$ 359,792	\$	264,913	\$	94,879	\$	131,628		
Computer and software	262,556		160,653		101,903		79,552		
Leasehold improvements	91,752		34,786		56,966		66,141		
	\$ 714,100	\$	460,352	\$	253,748	\$	277,321		

### **5. Deferred Contributions**

Grant revenue and interest revenue received that is in excess of expenses is deferred to offset expenses in future years. Included in deferred contributions is an unrealized cumulative gain on investments of \$16,494 (2010 – \$323,334).

### 6. Commitments

The organization entered into a ten year lease commencing on February 1, 2006, as well as office equipment contracts. As of January 1, 2010, the organization entered into a second lease agreement for additional continous space for a three year period with an option for two additional years. The annual payments over the next five years are as follows:

2012	\$ 481,525
2013	423,109
2014	314,853
2015-2016 (cumulative)	568,877

### 7. Net Assets

The net assets of the organization are recorded at zero since all funding received is recorded as deferred contributions until expenses are incurred.

### 8. Accounts Receivable

Accounts receivable consists of GST receivable of 118,048, and accrued interest of 226,712 for a total of 344,760.

### 9. Prepaid Expenses

Prepaid expenses consist of prepaid rent of \$20,492, a hotel deposit of \$4,480, D&O liability insurance of \$2,995, an Art Bank rental deposit of \$3,797, copier lease of \$1,146, and commercial insurance policy of \$508 for a total of \$33,418.

# ANNEX IV: STATEMENT OF INVESTMENT POLICY

# SECTION I - INTRODUCTION

- 1.1 This document constitutes the Statement of Investment Policy (the "Policy") applicable to the assets of the fund (the "Fund") created by The Council of Canadian Academies (the "Council") from proceeds of the Council's \$30 million funding grant from the Government of Canada.
- 1.2 The purpose of this Policy is to formulate those investment principles, guidelines and monitoring procedures which are appropriate to the needs and objectives of the Fund, in a manner conforming to the funding agreement (the "Funding Agreement") with the Minister of Industry on behalf of the Government of Canada.
- 1.3 Any investment manager or other party providing services in connection with the investment of the Fund shall accept and adhere to this Policy.

## SECTION II - ADMINISTRATION

- 2.1 The Board of Governors (the "Board") of the Council has the ultimate responsibility to ensure that the Fund is invested and managed in accordance with the prudent person principle.
- 2.2 The Board is responsible for all aspects of the operations of the Fund including this Policy. The Investment Committee (the "Committee") assists the Board in fulfilling its responsibilities.
- 2.3 The Committee is composed of at least three Governors who are not officers or employees of the Council. Members of the Committee shall be financially literate and have broad knowledge or experience in investment matters.
- 2.4 The custodian of the Fund (the "Custodian") shall be a trust company duly registered in Canada or a financial institution in Canada. Assets of the Fund shall be segregated from all other assets of the Council and held by the Custodian in a separate account or accounts in accordance with an agreement that clearly indicates that the assets are held for the Council.
- 2.5 Where the Committee desires to invest in pooled funds or mutual funds ("Pooled Fund") eligible for investment of the Fund, the Committee must satisfy itself that the investment policy of such Pooled Fund is consistent with this Policy.

- 2.6 Neither the Committee nor any employee of the Council shall select securities on behalf of the Fund except for the selection of Pooled Funds or short-term deposits with banks or trust companies.
- 2.7 The Committee and the Board may rely on independent experts for certain aspects of the Fund's operations.

# SECTION III - ROLES AND RESPONSIBILITIES

### The Committee

- 3.1 The Committee shall:
  - (a) recommend a written Statement of Investment Policy to the Board,
  - (b) recommend to the Board the appointment of one or more independent external advisors to provide investment advice (the "Investment Consultant(s)" ), <sup>1</sup>
  - (c) approve an Investment Strategy and review it at least annually,
  - (d) recommend to the Board the appointment of one or more independent professional investment managers (the "Manager(s)") to invest the Fund,
  - (e) recommend to the Board the appointment of the Custodian,
  - (f) regularly advise the Board on any significant financial risks or potential significant losses of investments,
  - (g) monitor the activities and performance of the Fund, and
  - (h) make other decisions that may be required to fulfill the terms of this Policy.

### The Board

- 3.2 The Board shall:
  - (a) approve the Statement of Investment Policy,
  - (b) approve the appointment of an Investment Consultant,
  - (c) ensure that proper external custodial arrangements are established for the Fund, and
  - (d) review the Policy at least annually.

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<sup>1</sup> Defined as Investment Advisor in the Finding Agreement

#### The Manager

- 3.3 The Manager shall:
  - (a) invest the assets allocated to it in accordance with the Policy and the Investment Strategy,
  - (b) comply with the terms of an Investment Manager Agreement ("Agreement"),
  - (c) report to the Committee in writing on a quarterly basis in respect of its performance for the quarter, the investment holdings and transactions, the intended strategy for the following quarter, deviation from the intended strategy for the preceding quarter and compliance with the Policy, the Investment Strategy and the Agreement,
  - (d) provide to the Committee upon appointment, and whenever changes occur thereafter, its policies and procedures relating to professional standards, conflicts of interest, internal controls and trading policies,
  - (e) advise the Committee on an ongoing basis of any relevant changes in its organization, personnel or investment process, and
  - (f) be available for meetings or discussions with the Committee on a reasonable basis.

### The Custodian

- 3.4 The Custodian shall:
  - (a) act under the terms of a custodial agreement,
  - (b) hold custody of the assets of the Fund and execute transactions,
  - (c) maintain records that are sufficient to allow the ownership of any investment to be traced to the Fund at any time, and
  - (d) provide financial statements detailing all changes in the value of the Fund.

The Investment Consultant

- 3.5 The Investment Consultant shall:
  - (a) prepare and deliver a report on the Fund and the Manager's performance to the Committee at least twice a year using investment returns calculated independently of the Manager,
  - (b) advise the Committee of issues relating to the Fund and the Manager as they arise,
  - (c) advise the Committee as requested, on other matters arising in the context of this Policy.

# SECTION IV - FUND OVERVIEW

- 4.1 The assets of the Fund were provided through a founding grant from the Government of Canada for the purpose of financing the core activities of the Council for a period of 10 years. It is the Council's responsibility to ensure that sufficient financial resources exist to deliver independent, expert assessments of the science that is relevant to important public issues.
- 4.2 It is expected that disbursements to cover eligible expenditures will exceed interest or other earnings from the Fund on an annual basis and that all assets will be fully disbursed at the end of the ten-year period. Therefore, sufficient liquidity to meet disbursements is an important consideration in the development of the Policy.

## SECTION V - PERMITTED CATEGORIES OF INVESTMENT

- 5.1 From time to time, and subject to this Policy, the Fund may invest in any or all of the following asset categories and subcategories of investment either directly or through Pooled Funds which hold these investments:
  - (a) "Fixed Income"
    - bonds and notes issued by the federal government, provincial governments, municipal governments and corporations
    - asset-backed securities
    - mortgage-backed securities
  - (b) "Cash or Cash Equivalents"
    - bank certificates of deposit
    - banker's acceptances
    - treasury bills, commercial paper and other short-term securities
- 5.2 The Fund may not invest or engage in the following categories of assets or instruments:
  - (a) equities or shares issued by any corporation,
  - (b) hedge funds or funds of hedge funds,
  - (c) fixed-income instruments rated below A- by Standard & Poors or Fitch Ratings; A3 by Moody's or A- by DBRS; Unrated securities will be assumed to fail such credit ratings,
  - (d) derivatives or any instruments that have derivative holdings or features,
  - (e) non-marketable securities,
  - (f) commodities,

- (g) repurchase agreements against securities which are not permitted to be held in the portfolio, and
- (h) margin transactions or any form of leveraging.
- 5.3 The assets of the Fund shall not, directly or indirectly, be invested in securities of a listed person as defined by the United Nations Suppression of Terrorism Regulations, or loaned to or used for the benefit of such a person.
- 5.4 No part of the Fund shall be invested in securities that are not denominated in Canadian dollars.

# SECTION VI - ASSET ALLOCATION

- 6.1 The primary objective is to reduce the uncertainty in the Fund's ability to meet a schedule of disbursement to cover eligible expenditures. Maximizing return is a secondary objective. The objectives in the design of the Policy are:
  - (a) maintaining the safety of capital,
  - (b) ensuring adequate protection against inflation, and
  - (c) maximizing the return on investment while staying within the constraints of the Funding Agreement.
- 6.2 The maturities and terms of investments shall reasonably match the profile of the Fund's forecasted disbursements. To the extent that the timing of disbursements is unknown, investments shall be held in securities with term to maturity of one year or less.
- 6.3 The Policy mix between Cash or Cash Equivalents and Fixed Income will vary over time to reflect the anticipated disbursements and the remaining investment horizon.
- 6.4 The Fund performance will be assessed based on a customized benchmark using Scotia Capital indices weighted to approximate the modified duration of the disbursements.
- 6.5 The risks faced by the Council include:
  - (a) the risk that long-term market returns will not be in line with expectations,
  - (b) the risk of annual volatility in returns, meaning that in any one year the actual return may be very different from the expected return (such return may also be negative), and
  - (c) to the degree that active management is employed, the risk that the added return expected of active management over passive management will not be realized, or will be negative.

## SECTION VII - PORTFOLIO DIVERSIFICATION AND CONSTRAINTS

- 7.1 The Fund will maintain a prudent level of diversification, subject to the exclusions in 5.2, 5.3 and 5.4 and the limits listed below based on the market value of the Fund.
- 7.2 In respect of the Fixed Income portfolio of the Fund:
  - (a) All securities must be readily marketable.
  - (b) Investments in the securities of any one issuer, or two or more affiliated entities, shall be limited to no more than 10% of the Fund except those issued or guaranteed by the Government of Canada or a province of Canada having at least an "A" rating.
  - (c) Investments in the securities with a credit rating of "A" (including all sub-classifications of this rating category) by at least one of the recognized credit rating agencies shall be limited to no more than 20% of the Fund.
  - (d) Investments in the securities with a credit rating of "AA" (including all sub-classifications of this rating category) by at least one of the recognized credit rating agencies shall be limited to no more than 70% of the Fund.
  - (e) Investment in securities that are not issued by, or carry the full faith and credit of either the Government of Canada or the government of a province shall be limited to no more than 80% of the Fund.
  - (f) Asset-backed securities shall be rated by a U.S. rating agency to ensure liquidity.
  - (g) Mortgage-backed securities shall be fully guaranteed by the Government of Canada or a province of Canada having at least an "A" rating.
- 7.3 All investments of the Fund in Cash Equivalents shall have a minimum credit rating of "R-1 (low)" or equivalent and be readily marketable or redeemable.
- 7.4 All debt ratings refer to the ratings of Dominion Bond Rating Service (DBRS) or comparable ratings of other major credit rating agencies. In the case of split-rated securities, the lowest rating by a major credit rating agency shall be used.
- 7.5 If a security's credit rating falls below the required level after purchase, the Manager shall remove it from the Fund as soon as practicable, but taking care not to unduly impair performance. The Manager shall notify the Committee promptly in writing when such a rating change results in non-compliance.

# SECTION VIII - LOANS AND BORROWING

- 8.1 No part of the Fund shall be loaned to any party, other than by purchasing securities which otherwise meet the requirements of this Policy for Fixed Income or Cash Equivalents.
- 8.2 The Manager shall not borrow money, pledge or otherwise encumber any of the Fund's assets, except to the extent that temporary overdrafts occur in the normal course of day-to-day portfolio management.

## SECTION IX - VALUATION OF INVESTMENTS

- 9.1 Investments in marketable securities shall be valued by the Custodian no less frequently than monthly at their market value at that time.
- 9.2 Investment in a Pooled Fund shall be valued according to the unit values calculated at least monthly by the custodian of that Pooled Fund. The Custodian shall be responsible for requesting and recording the unit values on a monthly basis.

## SECTION X - CONFLICTS OF INTEREST

- 10.1 If a member of the Committee, or any agent of or advisor to the Committee, or any person employed in the investment or administration of the Fund has, or acquires, any material interest, direct or indirect, in any matter in which the Fund is concerned or may benefit materially from knowledge of, participation in, or by virtue of an investment decision or holding of the Fund, the person involved shall as soon as practicable, disclose in writing this potential conflict of interest to the Chair of the Committee. The Chair shall immediately advise all members of the Committee, and the Committee shall decide upon a course of action. Any such person will thereafter abstain from any decision making with respect to the area of conflict, unless otherwise determined by unanimous decision of the remaining members of the Committee.
- 10.2 A Manager shall provide the Committee with its internal guidelines on purchasing securities of members of the Manager's organization, affiliates, or entities in which the Manager or its affiliates have a substantial interest or in which any employee of the Manager or that employee's spouse or children have a substantial investment.
- 10.3 Every disclosure of interest under this Section shall be recorded in the minutes of the relevant Committee meeting.
- 10.4 The failure of a person to comply with the procedures, described in this Section, shall not of itself invalidate any decision, contract or other matter.

10.5 The Committee shall satisfy itself that an appropriate policy regarding conflicts of interest exists and is followed by any Manager. As a minimum, the Code of Ethics and Standards of Professional Conduct adopted by the CFA Institute shall be expected to apply to such Manager.

## SECTION XI - MONITORING

- 11.1 The Committee, in conjunction with its Investment Consultant, shall review on a regular basis, as needed, and at least once a year:
  - (a) the assets and net cash flow of the Fund,
  - (b) the investment performance and management of the Fund and the Manager relative to the objectives of the Policy and of the Investment Strategy,
  - (c) portfolio holdings,
  - (d) the fees and expenses incurred in managing the Fund, and
  - (e) compliance with this Policy and Investment Strategy.

Following such review, the Committee shall take such action as it deems prudent and appropriate.

- 11.2 The Committee, in conjunction with its Investment Consultant, shall meet at least once a year with the Manager to discuss investment performance, investment strategies, expected future performance and any changes in that Manager's organization, investment processes and professional staff.
- 11.3 The Committee shall evaluate whether any information discovered through the foregoing monitoring activities require specific communication to the Board.

## SECTION XII – POLICY REVIEW

- 12.1 This Policy shall be reviewed at least annually in order to determine whether any modifications are necessary or desirable. Such review shall include but not be limited to:
  - (a) changes in the expected projected expenditures of the Fund,
  - (b) revisions to the expected long-term trade-off between risk and reward,
  - (c) shifts in the financial objectives and risk tolerance of the Council,
  - (d) shortcomings of the Policy that emerge in its practical operation, and
  - (e) recommendations by a Manager.



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